CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.12/RS /KRIDL/STEEL/2014-15 28.03.2015

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer**, Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
Agency	:	**Mr. R. Shivaram,** No.4/13, Avalamma Choultry Layout, Magadi Road, Bangalore – 560023..
Name of the Work	:	Providing Metalling to roads & drains at Surya Enclave & Ananda county at Abbigere, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	BBMP/AEE/SSD/DZ/PR/2014-15 Dated: 24.03.2015
Date of Test	:	28.03.2015
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per meter (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	12	0.89	516	557	13.50	O.K	O.K

Note:

⇒ The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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Basaveshwaranagar, Bangalore-560 079.

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TEST REPORT ON REINFORCEMENT STEEL

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Agency	:	**Mr. R. Shivaram,** No.4/13, Avalamma Choultry Layout, Magadi Road, Bangalore – 560023..
Name of the Work	:	Providing Metalling to roads & drains at Surya Enclave & Ananda county at Abbigere, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	BBMP/AEE/SSD/DZ/PR/2014-15 Dated: 24.03.2015
Date of Test	:	28.03.2015
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per meter (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	16	1.58	518	562	13.65	O.K	O.K

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T-2377

Job No.: CTCE/BBMP/W.No.12/RS/CSR-3/797d/CUBE/2014-15 30.04.2015

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.

*** Agency** : **Mr. R. Shivaram,** No.4/13, Avalamma Choultry Layout, Magadi Road, Bangalore – 560023.

*** Name of the work** : Providing Metalling to roads & drains at Surya Enclave & Ananda county at Abbigere, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.

*** Reference** : BBMP/AEE/SSD/DZ/PR/2014-15 Dated: 24.03.2015

*** Sample ID** : Drain Covering Slab Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 30.04.2015

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	02.04.2015	30.04.2015	8.165	479.3	21.30
2	02.04.2015	30.04.2015	8.255	506.5	22.51
3	02.04.2015	30.04.2015	8.328	512.3	22.77

* Information is furnished by the Customer/Representative

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VISHWANATH. I.A.
Chief Executive Officer

AE-12

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರ
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#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.12/RS/WBM-II/AIV/2014-15 06.04.2015

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
Agency	**Mr. R. Shivaram,** No.4/13, Avalamma Choultry Layout, Magadi Road, Bangalore – 560023.
Name of the Work	Providing Metalling to roads & drains at Surya Enclave & Ananda county at Abbigere, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	BBMP/AEE/SSD/DZ/PR/2014-15 Dated: 24.03.2015
Source / Location	WBM Mix Plant, Bangalore
Type of Mix	Water Bound Macadam
Date of Testing	06.04.2015

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	382	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	81	83	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	303	
4	Aggregate Impact value = percent fines	21.20	21.50	
	100* (W_2/W_1)%			**21.35**

Comments:

→ Maximum allowable Aggregate Impact value for Water Bound Macadam is 30%

Note:

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Job No.:CTCE/BBMP/W.No.12/RS/WBM-II/S-T/2014-15 06.04.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
Agency	**Mr. R. Shivaram,** No.4/13, Avalamma Choultry Layout, Magadi Road, Bangalore – 560023.
Name of Work	Providing Metalling to roads & drains at Surya Enclave & Ananda county at Abbigere, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	BBMP/AEE/SSD/DZ/PR/2014-15 Dated: 24.03.2015
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	Water Bound Macadam (Grade-II Metal)
Date of Testing	06.04.2015

Result : Flakiness Index = **12.32%**

Elongation Index = **13.93%**

Result : Combined Flakiness & Elongation index 26.25%

Note:

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2. The results indicated above are based on the tests carried out on the samples collected by the laboratory.
3. Any Query regarding the report must be reported within 15 days from the date of testing.

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ಶಬ್ದಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
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Job No.: CTCE/BBMP/W.No.12/RS/WBM-III/AIV/2014-15 10.04.2015

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
Agency	**Mr. R. Shivaram,** No.4/13, Avalamma Choultry Layout, Magadi Road, Bangalore – 560023.
Name of the Work	Providing Metalling to roads & drains at Surya Enclave & Ananda county at Abbigere, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	BBMP/AEE/SSD/DZ/PR/2014-15 Dated: 24.03.2015
Source / Location	WBM Mix Plant, Bangalore
Type of Mix	Water Bound Macadam
Date of Testing	10.04.2015

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	388	390	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	83	84	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	305	306	
4	Aggregate Impact value = percent fines	21.39	21.54	
	100* (W_2/W_1)%			**21.47**

Comments:

→ Maximum allowable Aggregate Impact value for Water Bound Macadam is 30%

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Job No.: CTCE/BBMP/W.No.12/RS/WBM-III/S-T/2014-15 10.04.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Customer	**Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
Agency	**Mr. R. Shivaram,** No.4/13, Avalamma Choultry Layout, Magadi Road, Bangalore – 560023.
Name of Work	Providing Metalling to roads & drains at Surya Enclave & Ananda county at Abbigere, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	BBMP/AEE/SSD/DZ/PR/2014-15 Dated: 24.03.2015
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	Water Bound Macadam (Grade-III Metal)
Date of Testing	10.04.2015

Result : Flakiness Index = **12.32%**

Elongation Index = **13.30%**

Result : Combined Flakiness & Elongation index 25.62%

Comments:

Maximum allowable Falakiness & Elongation Index for Water Bound Macadam is 30%

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